WASHINGTON STATE PATROL – FIRE PROTECTION BUREAU
INSPECTION SECTION
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Maintenance and Testing of Fire Sprinkler Systems

When properly installed and maintained, automatic fire sprinkler systems have proven to be the most effective means for protecting life and property against fire. In order to meet both federal certification requirements and state licensure requirements, automatic fire sprinkler systems are required to be inspected, tested and maintained in accordance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*. For federal certification, NFPA 101 (2000), Sec. 2.1.1 references the 1998 edition of NFPA 25. For state licensure, RCW 19.27.031 Sec. 901.6.1 and Table 901.6.1 reference the 2008 edition of the standard.

The requirements contained in NFPA 25 are based on the type of sprinkler system installed. The two types most commonly found in healthcare occupancies are wet pipe and dry pipe sprinkler system. This article is intended to serve as a quick reference guide only and is not intended to be all inclusive. Some facilities may have additional equipment not covered in this article. It is important, therefore, that the user has access to, and become familiar with all of the requirements found in NFPA 25.

It is the facility's responsibility to ensure that only properly trained and competent persons perform inspections, testing and maintenance on its fire sprinkler system. NFPA 25 states "These tasks shall be performed by personnel who have developed competence trough training and experience." The State of Washington has more restrictive requirements for any individual person personally performing the physical work of inspection and testing on water-based fire protection systems under contract must possess state certification.

The following monthly inspections can be performed by facility staff:

1. Visually inspect control valves to ensure that they are in the normal open position, accessible, properly sealed, locked and/or supervised, free from leaks, and provided with appropriate signage identifying the portion of the system they control.
2. Visually inspect gauges on wet pipe systems to verify that they are in good condition and that normal water pressure is being maintained.
3. Visually inspect gauges on dry pipe systems to verify that they are in good condition and that normal air and water pressure are being maintained.

The following quarterly inspections are in addition to those required monthly and can be performed by facility staff:

1. For hydraulically designed sprinkler systems, inspect the hydraulic nameplate to verify that it's securely attached to the sprinkler riser and is legible.
2. Inspect alarm devices to verify that they are not physically damage.
3. Inspect fire department connections to verify that: they are visible and accessible, couplings or swivels are not damaged and rotate smoothly, plugs or caps are in place and not damaged, gaskets are in place and in good condition, identification signs are in place, and the check valve is not leaking.

The following quarterly tests can be performed by a fire sprinkler contractor or by facility staff with proper training:

1. Test the water flow alarm on wet pipe sprinkler systems by opening the inspector's test connection.
2. Test the water flow alarm on dry pipe sprinkler systems by using the bypass connection.

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Quarterly Documentation Record of Fire System Tests

Facility_____ Year_____

The following procedures are to be used in conducting tests of the fire protection systems and equipment. **Attention: All tests shall be conducted each quarter and documented below.** These are minimum requirements. Check with your fire sprinkler contractor for the specific needs of your system.

NOTE: NOTIFY MONITORING AGENCY PRIOR TO CONDUCTING TESTS.

	1st	2nd	3rd	4th
Main Drain Test Record the static water supply pressure in psi as indicated of the lower pressure gauge. Open the main drain and allow water flow to stabilize. Record the residual water supply pressure while water is flowing from the 2" main drain as indicated on the lower pressure gauge in psi. Close the main drain (slowly).				
Wet Pipe System Flow Alarm Test water flow alarms by opening the inspector's test valve. (Notify alarm company to avoid false alarms).				
Wet Pipe System Gauges Inspect & Alarm Test (monthly) Gauges are in good condition and normal pressures are maintained.				
Alarm Devices – Inspect exterior**.**				
Fire Department Connections Verify connection is visible and accessible, not damaged, caps or plugs are in place, identification sign is in place, and automatic drain is working properly.				
Hydraulic Nameplate If system was hydraulically calculated, assure nameplate is legible and securely attached to riser.				
Valves all Types – Visually inspect pressure reducing and relieve valves.				
Dry Pipe System Flow Alarm Open the alarm bypass valve. (Notify alarm company to avoid false alarms). **Caution:** opening the inspector's test connection can cause the system to trip accidentally, allowing the pipes to fill with water and creating a potential for a serious freeze problem.				
Dry Pipe Priming Level Check dry priming water level by opening the test valve and checking for a small amount of water to discharge. If no water flows out of the test line, add priming water.				
Dry Pipe system Low-Air-Pressure Alarm Low air pressure alarms, if provided, shall be tested quarterly in accordance with the manufacturer's instructions.				
NOTIFY MONITORING AGENCY THAT TEST IS COMPLETED AND SYSTEM IS BACK IN SERVICE.				